



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,931	11/26/2001	Nobuaki Hashimoto	103092.02	9980

25944 7590 12/23/2003
OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER
LEE, HSIEH MING

ART UNIT 2823
PAPER NUMBER

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,931

Applicant(s)

HASHIMOTO, NOBUAKI

Examiner

Hsien-Ming Lee

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 53-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 55, 57, 59, 61, 63 and 65-73 is/are allowed.
- 6) ☒ Claim(s) 53, 54, 56, 58, 60, 62 and 64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/271,336.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Remarks

1. Applicant's RCE filling request is acknowledged.
2. Claims 53-73 are pending in the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 53, 54, 56, 58, 60, 62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imasu et al. (US 6,208,525).

In re claims 53, 54, Imasu et al., in Fig. 12 and related text, teach the claimed substrate 19 having penetrating holes 19A formed therein, the substrate 19 having a *conducting member* 15/13/10 adhered on one side thereof by an adhesive material 16 over a particular region of the one side, including the penetrating holes 19A, the conducting member 15/13/10 formed *directly over the penetrating holes 19A and over portions of the substrate 19 adjacent to the penetrating holes 19A*, a part of the adhesive material 16 formed on internal wall surfaces forming the penetrating holes 19A so as not to *block* the penetrating holes 19A, wherein a part of the adhesive material 16 enters and exists within the penetrating holes 19A.

Imasu et al. do not expressly teach that the conducting member 15/13/10. However, one of ordinary skill in the art, at the time of the invention was made, would have been recognized that the conducting portion 15/13/10 acts as claimed "wiring pattern" because the

conducting member 15/13/10 is for the purpose of wiring. In addition, “wiring pattern” has not been set out the special definition explicitly and reasonable clarity, deliberateness and precision in the originally filled specification (refers to pages 13-16). Therefore, the claimed “wiring pattern” has been broadly interpreted as the “conducting member 15/13/10” in Imasu et al., including a bump electrode 15, an external terminals 13 and a chip 10.

In re claim 56, Imasu et al also teach that the adhesive material 16 is an adhesive tape (i.e. sheet)(col.8, lines 1-4).

In re claim 58, Imasu et al. further teach that the wiring pattern 15/13/10 includes first 10/13 and second 15 portions, a part of the first portion 10/13 positioned over each of the penetrating holes 19A, the first portion 10/13 having a greater width than the second portion 15.

In re claim 60, Imasu et al. inherently teach that the substrate 19 is an insulating substrate. If the substrate were not an insulator, a short-circuit would occur among the adjacent conductive members 4A, 13 and 15.

In re claim 62, Imasu et al. also teach that the substrate 19 is a printed substrate (i.e. wiring board).

In re claim 64, Imasu et al also inherently teach an anisotropic conductive material 16 having conductive particles dispersed in an adhesive 16 (col.8, lines 3-4).

Allowable Subject Matter

5. Claims 55, 57, 59, 61, 63, 65-73 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:

In re claims 55, 57, 59, 61, 63, and 65, Imasu et al. to US 6,208,525 neither teach nor suggest that the substrate has *protrusions* formed in the *internal wall* surfaces of the *penetrating holes* by the *material constituting the substrate*.

In re claims 66, 70 and 72, Imasu et al. neither teach nor suggest carrying out punching from the side of the substrate on which the adhesive material is provided and in the direction of the opposite side thereof to form penetrating holes and *to draw a part of the adhesive material into the penetrating holes*.

In re claims 67-69, 71 and 73, Imasu et al. neither teach nor suggest having penetrating holes in which the *internal all surfaces have protrusion*.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hsien-Ming Lee whose telephone number is 703-305-7341. The examiner can normally be reached on M-F (9:00 ~ 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hsien-Ming Lee
Examiner
Art Unit 2823

Dec. 18, 2003

